1. Note on the Stridulating Organ of *Palinurus vulgaris*.

By T. Jeffery Parker, Assoc. R.S.M.

[Received March 27, 1878.]

(Plate XXX.)

On the 5th of March I exhibited to the Society a structure, evidently of the nature of a stridulating organ, which I had found in the common *Palinurus*, and which I then believed had hitherto escaped notice. On the following day, however, Professor Huxley showed me a reference, which he had that morning chanced to meet with, to a paper by Dr. Karl Möbius, in the 'Archiv für Naturgeschichte' for 1867, the title of which, "Ueber die Entstehung der Töne welche *Palinurus vulgaris* mit den äusseren Fühlern hervorbringt," showed at once that I had been anticipated. I hasten, therefore, to render to Dr. Möbius such credit as belongs to the discovery, and take the opportunity, at the same time, of making some criticisms on his paper, as well as a few additional remarks upon the organ in question[1].

The main anatomical features of the stridulating organ are described by Möbius, as they could hardly fail to be, with perfect correctness. He fails, however, to notice either the guiding tubercle (Plate XXX. figs. 3 and 4, *t*), situated just below the ridged pad (*p*) on the antenna, or the groove for its reception on the antennulary sternum (fig. 1, *g*): the former, indeed, is shown in his figure; but no reference is made to it. As I mentioned in my former communication, these structures are of great importance, as by their means the apparatus is brought into gear: when the tubercle does not fit into the groove the pad is no longer in close apposition with the smooth surface of the antennulary sternum, and the antenna moves noiselessly.

As to the functions of the various parts of the apparatus, the account given by Möbius is altogether at variance with my own. He makes the observation that the lower surface of the flap (figs. 1–4, *f*) which plays over the lateral ridge (figs. 1 and 2, *r*) of the antennulary sternum is beset with innumerable close-set minute hairs, inclined with their points upwards, and that, corresponding to these, fine scratches are to be seen on the surface of the ridge itself. All this is perfectly correct: there is no doubt about the presence or the direction of the hairs; and the scratches are quite visible with a hand lens. But Möbius goes on to say that the scratches are produced by the hairs, and that it is the friction of the flap against the smooth edge of the antennulary sternum which produces the sound, by the upwardly directed hairs catching against the surface, when the antenna is moved in the same direction. Of course when the antenna moves downwards the hairs will lie flat and present no ob-

[1] I find that Leach, in his 'Malacostraca Podophthalmata Britanniæ' (1815), mentions the stridulating of *Palinurus*, and correctly ascribes the sound to the friction of the antenna against the "clypeus" (antennulary sternum). He gives, however, no description or figure of the apparatus.

Fig. 1.

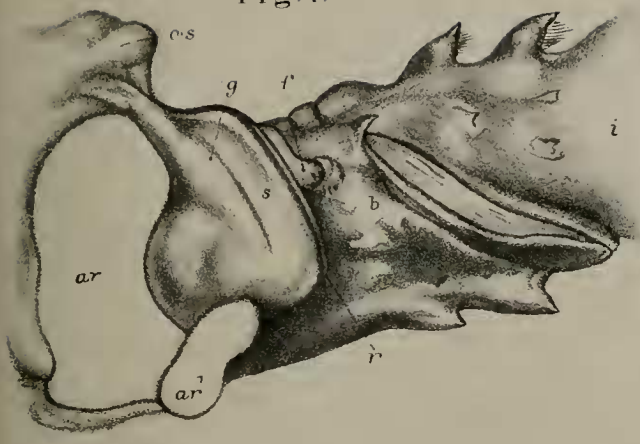
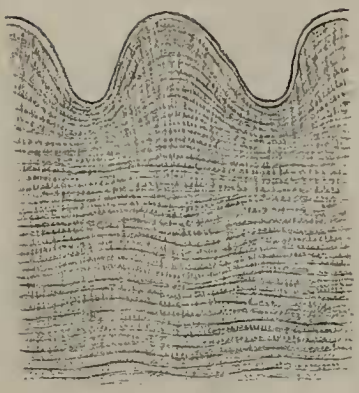
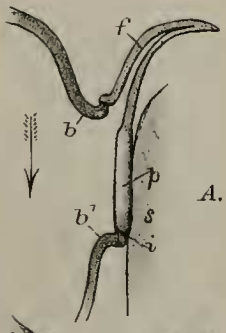


Fig. 6.





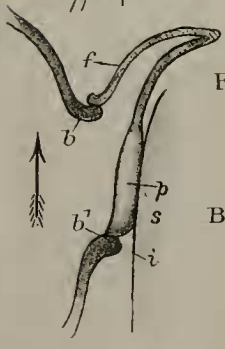


Fig. 5.

Fig. 3.

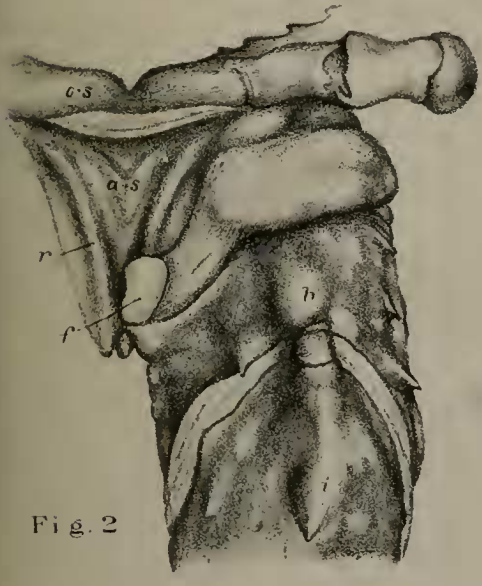
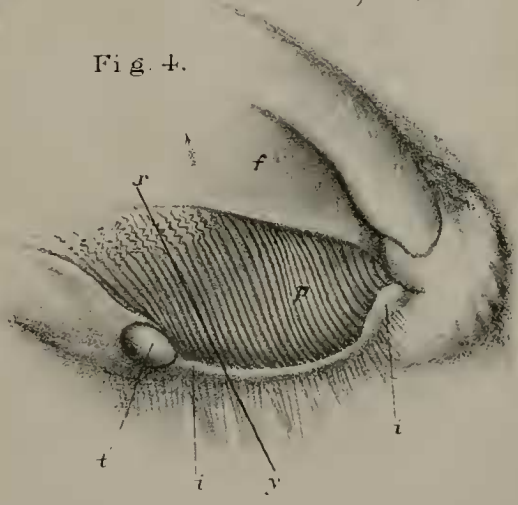


Fig. 2

Fig. 4.



T.J.P. del. C. Berjeau lith

Mintern Bros imp.

STRIDULATING ORGAN OF PALINURUS.